



Enabling Efficient Barrier Properties in Sustainable Food Packaging

In pursuit of end product recyclability, food packaging innovators have been shifting to mono-material designs. Kraton's functionalized block copolymers can support this industry need without compromising the performance and efficiency enabled by the multi-layer systems. Traditional multi-layer film structures can also be designed using these polymers.

BENEFITS:

-  ---• Enables Recyclable Design
-  -----• Improves Puncture & Tear Resistance
-  -----• Enhances Flexibility of Film Structure
-  -----• Enables Balanced Performance of Impact Strength & Flexibility
-  -----• Enables Tie Layers with High Adhesion Strength
-  -----• Provides Easily Adaptable Melt Viscosity to Match Profiles of Substrates
-  -----• Supports Transparent Solutions



These benefits have been observed with functionalized Kraton SEBS (FG-SEBS) in multi-layer cast film as a tie layer. The recommended functionality is approx. 0.25 – 0.5%.



Anticipated layer adhesion or surface interaction between F-SEBS tie layer and various polymer substrates.

Substrate 1	FM*	Tie Layer	FM*	Substrate 2
Polycarbonate (PC)	A	F-SEBS	A	EVOH
Polyamide (PA)	A	F-SEBS	C	PE, PP
Polypropylene (PP)	C	F-SEBS	A	EVOH
Polyethylene (PE)	C	F-SEBS	A	EVOH
PET	A	F-SEBS	C	PE, PP

*FM (Mode of Peel Failure: A – Adhesive, C – Compatible, Cohesive)

Recommended Polymers:

- » PP or PE: Kraton G SEBS
- » PS / HIPS: Kraton A or Kraton D SBS
- » PC: Kraton G SEBS
- » EVOH: Kraton FG SEBS



Keys to Success:

- » Facilitate Design for Recycling
- » Match Rheology (Blend Polymers)
- » Balance Functionality (Blend Non-Functional)
- » Match Block Copolymer to Substrate



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